STATISTICS REPORT

1989-90

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LABOUR
Employment Pensions Branch

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INTRODUCTION

The Employment Pensions Branch is pleased to present the second annual statistical report on the status of registered pension plans in Alberta. The report is designed to provide the reader with information on various features of the private pension system both in terms of branch activity and the types of plans being registered, and the funding of those plans.

The report is divided into two Sections. The first section provides a brief description of the programs of the Employment Pensions Branch and an overview of branch activity historically and over the past year specifically. The second section examines the plans registered with the branch and covers such areas as plan membership and types of plans. Features such as vesting, funding and solvency, and actuarial assumptions being used in defined benefit plans are also covered in the second section.

The structure of the report is a combination of commentary, tables and graphs, with some additional tables appended at the end of the report.

The information presented is based on the data received from plan sponsors and tabulated by the branch. The data used is as of March 31, 1990.

A. THE EMPLOYMENT PENSIONS BRANCH

1. ROLES AND RESPONSIBILITIES

ADMINISTRATION OF THE ACT

The Employment Pensions Branch of Alberta Labour is responsible for the administration and enforcement of the Employment Pension Plans Act, which came into force on January 1, 1987, replacing the Pension Benefits Act which was effective January 1, 1967. The principal objective of the Act is to safeguard employee entitlements to benefits promised under private sector pension plans.

With the exception of certain exempted pension plans identified under section 41(1) of the Employment Pension Plans Regulation, the Act requires that every pension plan covering employees in Alberta be registered with the branch in order to ensure that each plan complies with the terms and conditions of the Act throughout its' lifetime.

In accordance with the Act, the branch may refuse to register pension plans that do not qualify and may cancel Certificates of Registration previously issued. Branch staff monitor pension plans to ensure that they are administered correctly and that pension plan funds are sufficient to cover earned benefits.

RECIPROCAL AGREEMENTS

As authorized by section 3 of the Employment Pension Plans Act, the Alberta government is a party to two agreements, one with the Government of Canada, and one with those other provinces which have legislation similar to Alberta's Act. Both agreements provide for the reciprocal registration, audit and inspection of pension plans. Under these agreements, a pension plan subject to the legislation of more than one authority is supervised by that authority having jurisdiction over the greatest number of plan members. This means that the branch carries out the duties and responsibilities of other pension jurisdictions in cases where reciprocal agreements apply, including the administration of the legislation of those other jurisdictions.

THE LABOUR RELATIONS CODE

The branch is also the repository for trust agreements relative to employee benefit plans filed under section 154 of the Labour Relations Code. Filed trust agreements and amendments are reviewed for possible inadequacies or inconsistencies with regard to the intent and purpose of the agreement.

With respect to trust agreements that have been authorized or sanctioned by a collective agreement and filed with the Minister of Labour, section 154 of the Labour Relations Code provides that a trustee is not personally liable for his or her actions as a trustee, unless it can be proven that the trustee failed to act honestly or did not act in accordance with the purpose and intent of the trust agreement.

2. REGULATION OF PLANS

PLANS SUPERVISED

As of March 31, 1990, the branch was responsible for the supervision of 1 700 pension plans, 1 561 of which had received registered status, and 139 of which had been reviewed and were awaiting further documentation before being registered under the Employment Pension Plans Act. These plans covered a total of 288 261 active plan members, and 78 161 former members entitled to benefits. The majority of pending plans were one person executive plans which had not yet received acceptance by Revenue Canada Taxation.

Except as otherwise noted, Tables I and II, on page 6, provide an overview of branch activity from its' inception in 1967 to March 31, 1990. The first column in each table provides totals up to the previous fiscal year under review and column three provides the total to the end of the 1989-90 fiscal year.

Graphs 1 and 2, on page 7, chart branch activity from January 1, 1967 to March 31, 1990 in terms of plans approved and discontinued (Graph 1), and plans supervised (Graph 2). As can be seen, peak periods for both registration of plans and plans supervised were in 1968, when plans were first being registered with the branch, and in 1986, when there were a large number of plans filed which related solely to significant shareholders. Discontinuances peaked in 1971 and have remained relatively constant since, with a slight increase occurring in recent years. This recent increase in the number of plan discontinuances relates mostly to the discontinuance of plans for significant shareholders.

REGISTRATIONS

As outlined in Table I, there were 138 new pension plans examined during the 1989-90 fiscal year. Of these, 129 plans were actually registered. Nine plans were not approved for registration by Revenue Canada Taxation and the plan sponsors decided not to proceed with establishing these plans.

TRANSFERS

Under reciprocal agreements entered into with other governments, three plans were transferred to Alberta and two were transferred from Alberta to other jurisdictions.

DISCONTINUANCES

There were 216 pension plans that were discontinued and had their Certificates of Registration cancelled during the year under review. These discontinued plans covered 2 016 members. One hundred and fifty four, or 71 percent of these plans, covering 243 members, were significant shareholder or executive plans. Eighteen plans, covering 512 members, were discontinued because they merged with other existing pension plans and the members had their benefits transferred to those other registered pension plans. Forty plans, covering 486 members, were discontinued because the company was dissolved or because of financial problems. Fifteen plans, covering 306 members were discontinued at the request of the plan sponsor. There were 106 discontinued plans, covering 687 members, which were replaced by registered retirement savings plans, and 23 plans discontinued because the last member had terminated or retired. Five plans, covering only seven members, were discontinued by the branch for non-compliance with the Employment Pension Plans Act. Table II

outlines the reasons for discontinuance and shows the member breakdown. In the past three years, ending March 31, 1990, 533 plans, covering 3 099 members, have been replaced by registered retirement savings plans.

OTHER ACTIVITIES

The branch also approved 1 182 amendments to registered pension plans during the fiscal year. Again this year there were a large number of amendments related to changes required to bring plans into compliance with the Employment Pension Plans Act, and other provincial and federal pension legislation. There were 1 587 Annual Information Returns and 148 Cost Certificates reviewed and accepted for purposes of the Act.

Table I

Regulatory Activities of the Branch for the Year Ended March 31, 1990

	Total at March 31, 1989 *	Change During Year	Total at March 31, 1990 *
Plans Examined	4 594	138	4 732
Plans Approved for Registration	4 489	129	4 618
Plans Transferred to Alberta Supervision	161	3	164
Plans Transferred from Alberta Supervision	171	2	173
Plans Discontinued (Registration Cancelled)	2 949	216	3 165
Amendments to "Approved" Plans	14 516	1 182	15 698
Annual Information Returns **	30 861	1 587	32 448
Cost Certificates ***	9 394	148	9 542

* These columns show totals since January 1, 1967.

** An Annual Information Return is submitted in respect of every pension plan and provides data regarding contributions to the plan, plan membership, terminations and retirements.

*** A Cost Certificate is submitted for each pension plan with a defined benefit provision on at least a triennial basis or when plan changes affecting the funding and solvency of the plan occur. The Cost Certificate provides data regarding the liabilities and assets of the plan and describes the contributions required to fund the benefits provided under the plan.

Table II

Reasons for Discontinuance of Pension Plans Supervised by the Branch for the Year Ended March 31, 1990

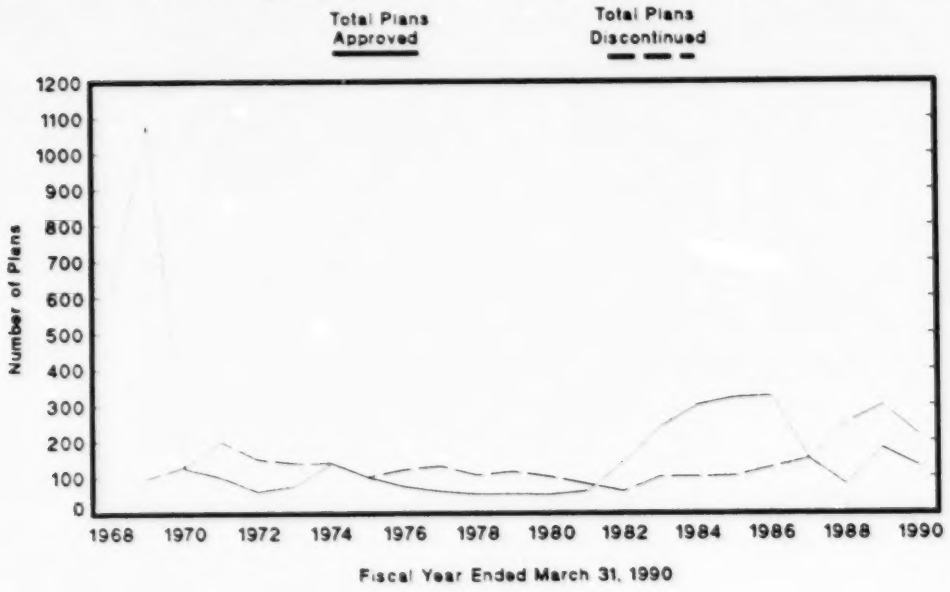
Reason for Discontinuance	Total at March 31, 1989 *	Change During Year	Total at March 31, 1990 *	Total Active Members Affected During 1989-90 Year
No Reason Given - Employer's Request	665	15	680	306
Replaced by New Plans	519	18	537	512
No Members Left in Plan	414	23	437	9
Non-Approval by Revenue Canada, Taxation	288	9	297	9
Company Dissolved	287	27	314	206
Financial Problems	259	13	272	280
Non-Compliance	58	5	63	7
Not Required to Register and Duplicate Registration	32	0	32	0
Replaced by RRSPS **	427	106	533	687
Total	**2 949**	**216**	**3 165**	**2 016**

* These columns show totals since 1967, except as indicated.

** Totals as at March 31, 1989 and 1990 represent totals since April 1, 1987.

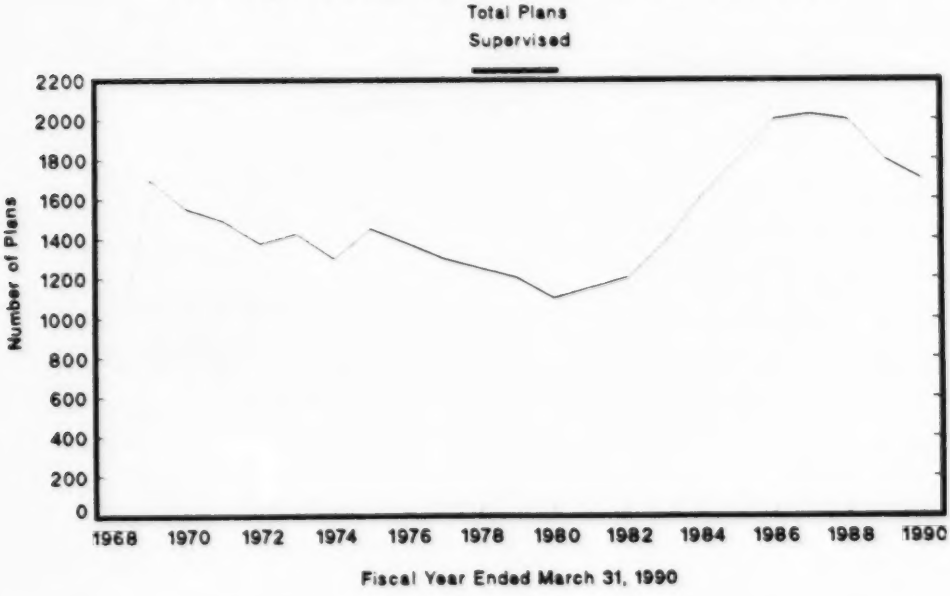
Graph 1

Plans Registered and Discontinued by the Branch During the Period Jan. 1, 1967 to Mar. 31, 1990



Graph 2

Plans Supervised by the Branch During the Period Jan. 1, 1967 to Mar. 31, 1990



B. PLANS SUPERVISED BY THE BRANCH

1. PLAN FUNDS

Tables III and IV, on page 9, deal with monies going into and out of pension plans during the 1989-90 fiscal year. Table III outlines the contributions made during the year. Table IV outlines surplus refunds, for which notice was given as is required by section 58(c) of the Act, during the year under review and provides a historical overview of surplus refunds to employers from 1982 onward.

CONTRIBUTIONS

The total amount required to be contributed to plans in the 1989-90 year, was $439 million. This amount included employee required contributions, employee voluntary contributions, employer current service contributions and employer special payments. Approximately $104 million in required employer current service contributions were offset by the use of existing surplus assets. This $104 million represented about 35 percent of required employer current service contributions. About $335 million was actually contributed to pension plans during the year under review.

Employee required contributions amounted to about $44.8 million, with an additional $7.2 million being contributed as employee voluntary contributions. This compares with employee required contributions of about $42.7 million and voluntary contributions of about $7.3 million in the 1988-89 fiscal year.

The remaining $283 million in actual contributions were employer contributions for current service and special payments. This compares to actual employer contributions totalling $224 million in the 1988-89 fiscal year. There was a significant increase in special payments over last year's figures, $18 million in 1988-89 versus $90 million in 1989-90. This related mostly to a higher level of amortization payments for unfunded liabilities.

SURPLUS REFUNDS

Surplus monies amounting to $5.8 million were refunded by trustees of pension plans to plan sponsors. Of this, $250 000 went to two plan sponsors as ongoing surplus refunds, and $5.55 million went to 19 employers on termination of their pension plans. An additional $1.4 million in surplus was provided to pension plan members on termination of their pension plans in the form of additional benefits. Table IV outlines the amounts refunded in 1989-90 and shows the level of surplus refunds to employers from April 1, 1982, to December 31, 1986 and then from January 1, 1987 to March 31, 1990.

Table III

Contributions to Plans Supervised by the Branch For the Year Ended March 31, 1990

EMPLOYEE CONTRIBUTIONS			
Required		$ 44 833 177	
Voluntary		7 168 305	
TOTAL		$ 52 001 482	$ 52 001 482
EMPLOYER CONTRIBUTIONS			
Current Service	$297 360 232		
Less Surplus Assets Used	104 746 737		
Net Current Service	192 613 495	$192 613 495	
Unfunded Liabilities	86 705 085		
Solvency Deficiencies	3 417 562		
Net Other Payments	90 122 647	90 122 647	
TOTAL		$282 736 142	$282 736 142
TOTAL EMPLOYER AND EMPLOYEE CONTRIBUTIONS			$334 737 624

Table IV

Surplus Refunds From Plans Supervised by the Branch For the Year Ended March 31, 1990

	# Of Plans	To Employers	To Employees	Total
Ongoing	2	$ 250 000	$ -0-	$ 250 000
Termination	19	5 556 853	1 416 683	6 973 536
TOTAL	**21**	**$5 806 853**	**$1 416 683**	**$7 223 536**

During the Period April 1, 1982 to March 31, 1990

	April 1, 1982 to December 31, 1986		January 1, 1987 to March 31, 1990	
	# Of Plans	$ Million	# Of Plans	$ Million
Ongoing	72	218.0	9	9.0
Termination	63	6.2	61	19.8
TOTAL	**135**	**224.2**	**70**	**28.8**

2. PLAN INFORMATION

ACTIVE MEMBERS

The 1 700 pension plans supervised by the branch covered 288 261 active members. Three of these plans, or 0.18 percent of plans registered, covered 52 percent of all active members. Two of these three plans were multi-employer negotiated plans covering 141 489 members, or 50 percent of all active members. On the other hand, 59 percent of the plans supervised by the branch covered only one percent of all active members. The bulk of these plans were one to three person shareholder and executive pension plans.

Outside of these two extremes, the majority of plans covered between 11 and 400 active members, with the average active membership being about 70 members. Table V, on page 12, provides a full breakdown of plans by membership size.

JURISDICTIONS

Table VI, on page 13, lists the number of plans that had active members in each jurisdiction. It should be noted that there is some overlap of plans as some plans had members in several jurisdictions. Forty-six percent of active members were employed in Alberta, and 24 percent were employed in British Columbia. The remaining 30 percent, were employed in the various other provinces and territories and some locations outside Canada. This table also illustrates the breakdown of membership by jurisdiction.

BENEFIT TYPE

Defined contribution plans accounted for 64 percent of the pension plans registered with the branch, however these plans covered only nine percent of active members. Flat benefit plans represented only five percent of the total plans registered, but they covered 61 percent of active members. Again these two extremes can be accounted for by the fact that the majority of defined contribution plans were shareholder and executive pension plans or plans for small employers, and the flat benefit plans were almost all large multi-employer plans.

Table VII, on page 14, provides data on benefit types both from the view of percentage of plans and active membership. Excluding the two extremes noted above, we can see that the most common plan for an average size employer was the defined benefit plan, and that majority of the active members of these plans were covered by average best earnings plans.

FORMER MEMBERS

As of March 31, 1990, there were 78 161 former members of pension plans with defined benefit provisions who were entitled to benefits from pension plans under which they had ceased active participation. Of these, 36 360 were pensioners or beneficiaries who were receiving benefits from the plan, and 41 801 were vested former members entitled to benefits at retirement. The average number of pensioners and vested former members per plan was approximately 70 and 80 respectively. Table VIII, on page 15, illustrates membership status by plan type. Defined contribution plans were assumed to have only active members, as these plans never provide payments from the plan and no data is available regarding the number of former members still entitled to benefits under these plans.

VESTING

Of the 1 561 plans approved for registration as of March 31, 1990, 48 percent had the Act minimum, of five years of employment, as their vesting rule for future benefit accruals. These plans covered 91 percent of active members. The remaining nine percent of active members, covered by 52 percent of plans registered, were vested between zero and four years of service, with the majority, or one third, of these members being vested after two years of service. Table IX, on page 16, illustrates the vesting provisions of plans registered, in terms of both number of plans and number of members.

Table V

Active Membership of Plans Supervised by the Branch For the Year Ended March 31, 1990

Member Range	# of Plans	# of Members	Average Members Per Plan
0 - 10	1 004	2 878	3
11 - 15	101	1 294	13
16 - 20	77	1 376	18
21 - 50	180	5 817	32
51 - 100	131	9 593	73
101 - 200	84	11 604	138
201 - 300	34	8 250	243
301 - 400	19	6 582	346
401 - 500	14	6 354	454
501 - 600	5	2 673	535
601 - 1000	17	13 257	780
1001 - 2000	17	24 545	1 444
2001 - 3000	9	24 946	2 772
3001 - 4000	3	11 114	3 705
4001 - 5000	2	9 149	4 575
5001 and over	3	148 829	49 610
Totals	**1 700**	**288 261**	**170**

Table VI

Active Membership by Jurisdiction For Plans Supervised by the Branch As of March 31, 1990

Jurisdiction	# of Plans	# of Members
ALBERTA	1 691	132 829
British Columbia	216	68 289
Quebec	42	35 156
Ontario	116	27 027
Manitoba	93	13 819
Saskatchewan	158	8 268
Nova Scotia	34	1 634
Yukon & Northwest Territories	25	393
New Brunswick	16	267
Newfoundland	27	249
Prince Edward Island	4	11
Outside Canada	33	319

PERCENTAGE OF MEMBERS

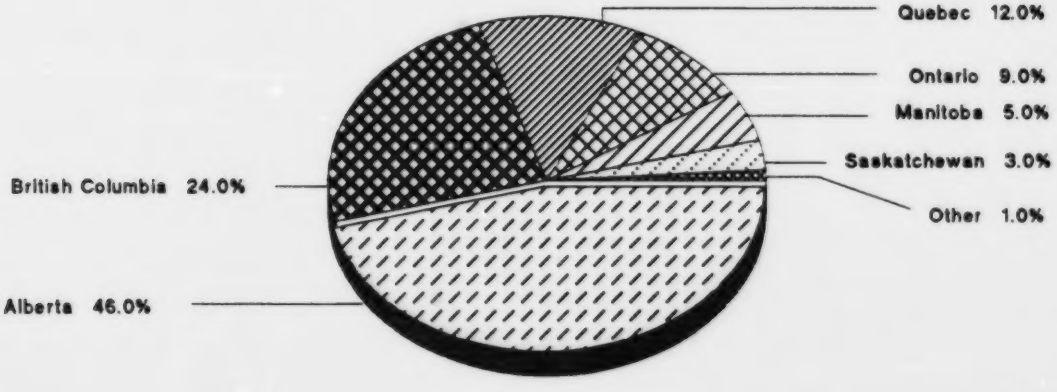
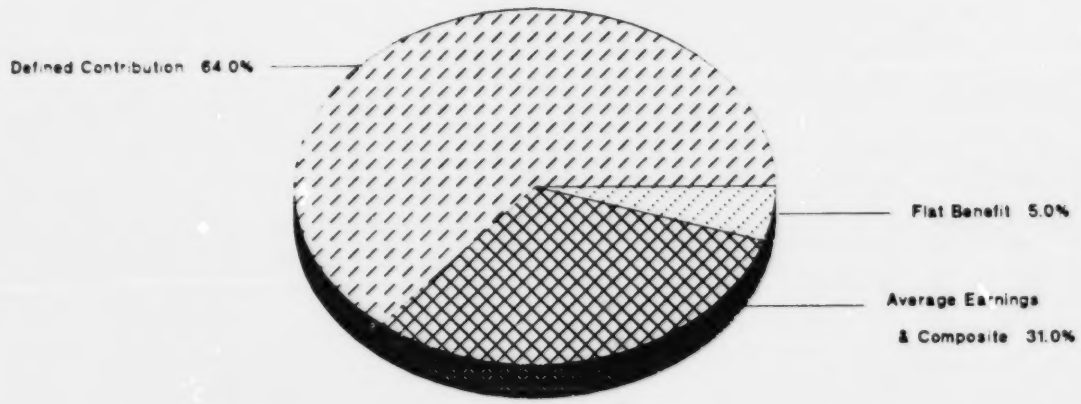


Table VII

Benefit Types for Plans Supervised by the Branch As of March 31, 1990

AS A PERCENTAGE OF PLANS



AS A PERCENTAGE OF ACTIVE MEMBERS COVERED

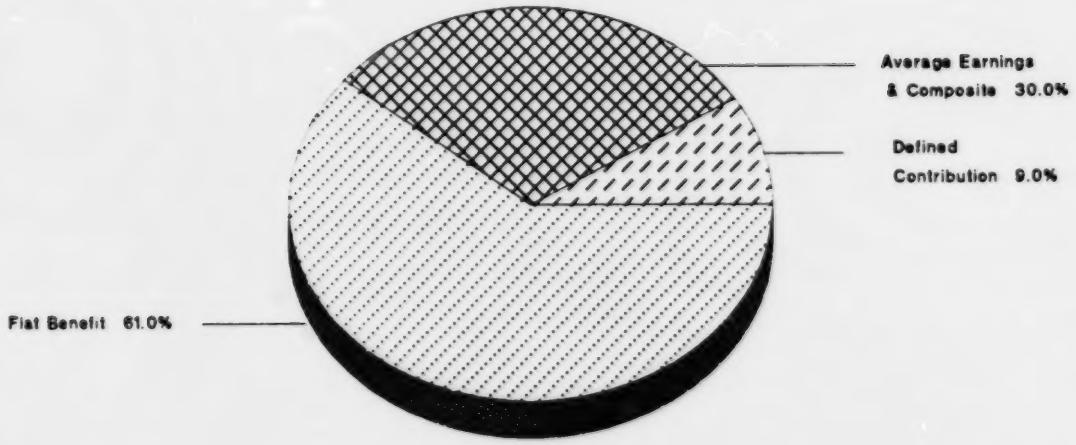


Table VIII

Membership Status by Plan Type
For Plans Supervised by the Branch
As of March 31, 1990

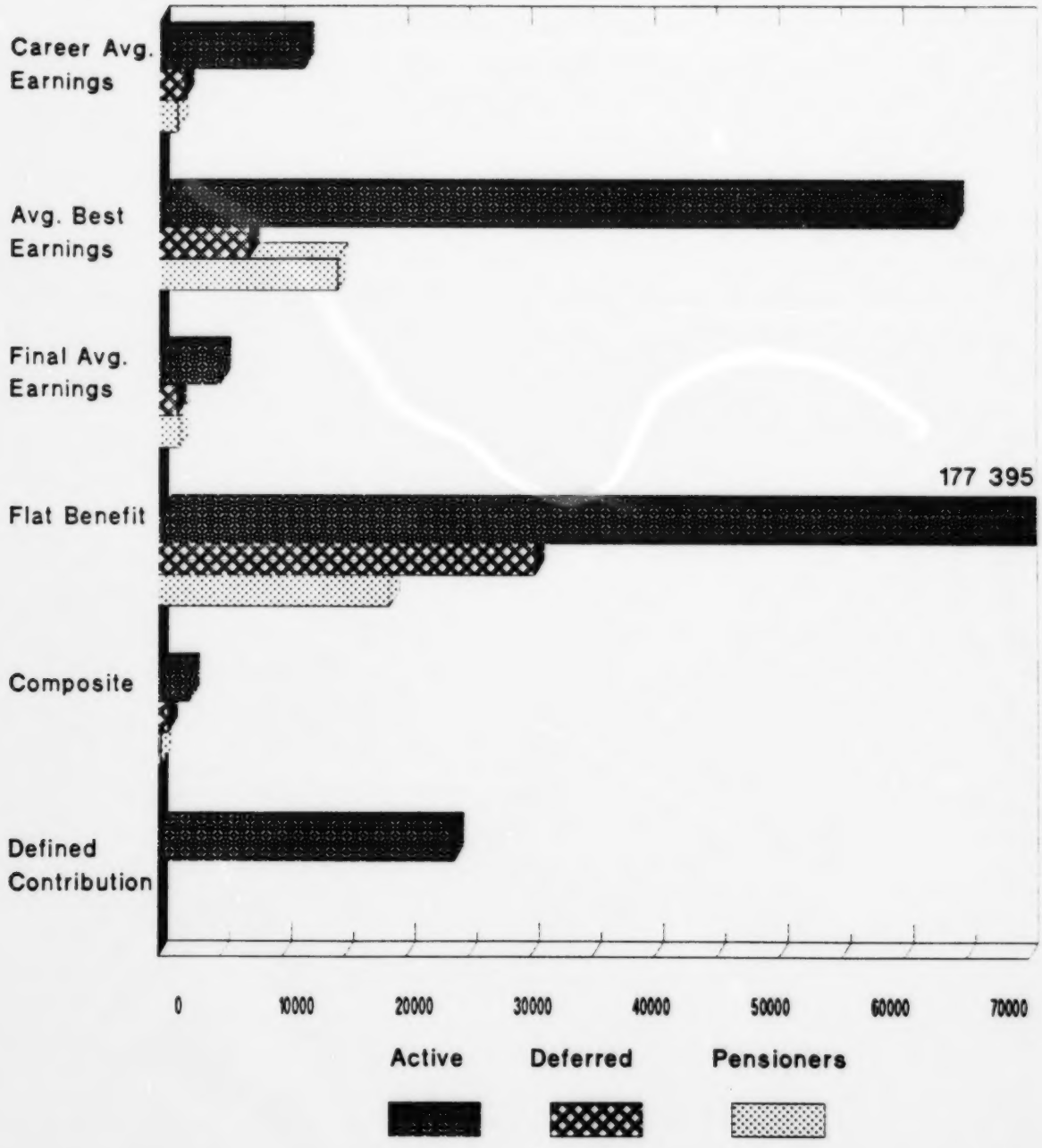
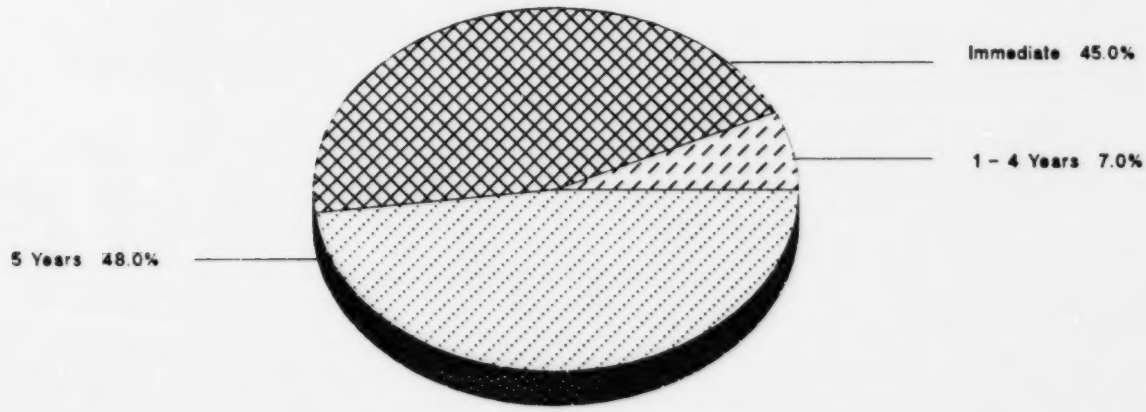


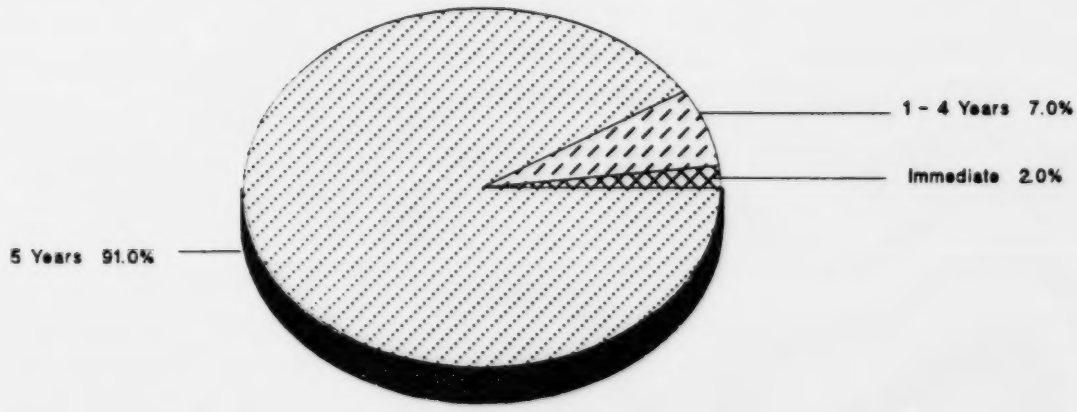
Table IX

Vesting Provisions for Plans Supervised by the Branch As of March 31, 1990

AS A PERCENTAGE OF PLANS



AS A PERCENTAGE OF ACTIVE MEMBERS COVERED



3. FUNDING AND SOLVENCY

ASSETS

The market value of the assets of the pension plans registered with the branch as of March 31, 1990 was close to $6.3 billion. Of this, about $368 million was attributable to defined contribution plans and $5.9 billion was attributable to defined benefit plans.

This amounted to approximately $15 396 for each member of a defined contribution plan and $17 305 for each member and former member of a defined benefit plan.

The average assets per plan was $349 674 for defined contribution plans and $11.6 million for defined benefit plans. As can be seen from Table X, on page 20, while the average assets per plan differs significantly from defined contribution to defined benefit, the difference in average assets per member is not very large. Again this can be explained by the two extremes, the few large defined benefit plans versus the large number of one or two person defined contribution plans. The latter case in particular, where individuals are contributing the maximum tax deductible amount each year, has had an effect on the average assets per member for defined contribution plans.

Table X gives a breakdown of total assets and average assets by plan type. It should be noted that this table and Table XI, on page 21, exclude the 139 plans, covering 3 613 members, which had been reviewed but were awaiting further documentation. These 139 plans were largely executive and shareholder plans which had not yet received Revenue Canada Taxation approval and were, therefore, delaying registration under the Employment Pension Plans Act. The tables do, however, include those newly registered plans which had no assets and no liabilities.

The remainder of the report commentary relates solely to plans which have defined benefit provisions, hereinafter referred to as defined benefit plans.

LIABILITIES

The going concern liabilities for defined benefit plans totalled about $5.9 billion as of March 31, 1990. This amounted to an average of $11.7 million per plan and $17 541 per member. This compares with total termination liabilities of approximately $5.5 billion, an average per plan of about $10.9 million, and an average of $16 362 per member. It should be noted that termination liabilities have been overstated. The reason for this is that plans which have a solvency ratio greater than one do not show the amount of termination liabilities when their cost certificates are filed. In these cases, termination liabilities have been assumed to be equal to the lesser of going concern liabilities and the market value of plan assets. Table XI provides specifics on liabilities per plan type on both ongoing and termination bases.

In comparing assets with liabilities it can be seen that on average, Alberta registered plans are fully funded on both a going concern and termination basis, however individual plans may differ significantly from the norm. The most notable exception to this is the going concern funded status of flat benefit plans, where ongoing liabilities exceed utilized assets by about $505 million. All multi-employer pension plans are included in this group, and it should be noted that almost all of the deficit relates to the two large multi-employer plans mentioned at the beginning of this report.

UNFUNDED LIABILITIES AND SOLVENCY DEFICIENCIES

There were 194 defined benefit plans, covering 170 080 active members, with unfunded liabilities and 16 plans, covering 1 052 active members, with solvency deficiencies as of March 31, 1990. The total of these two deficits was $669 million, with unfunded liabilities amounting to $665 million and solvency deficiencies amounting to $4 million. The average unfunded liability per active plan member was $3 909.

It is significant to note that the $16 million solvency deficiency related to the one flat benefit multi-employer pension plan highlighted in last year's report has been eliminated. As of March 31, 1990, no multi-employer pension plan had a solvency deficiency. However, $576 million, or almost 87 percent of the total unfunded liabilities, related to 24 flat benefit plans or 12 percent of the plans with unfunded liabilities. These 24 plans, however covered 90 percent of the active members of defined benefit plans that were less than fully funded on an ongoing basis.

Table XII, on page 22, outlines unfunded liabilities and solvency deficiencies for each defined benefit plan type.

SURPLUS

As of March 31, 1990, 284 defined benefit plans showed an excess of assets over liabilities, or a surplus. These plans had a total of 130 036 members, with 90 041 being active members.

The total surplus was about $546 million and the average surplus per plan was about $2 million . The average amount of surplus for each active and former plan member was $4 202. Table XIII, on page 23, provides further information on plans with surplus assets.

FUNDING AND SOLVENCY RATIOS

Tables XIV and XV, on pages 24 and 25, deal with funding and solvency ratios of defined benefit plans by both plan type and membership. There were 508 plans selected for these tables. Seventeen of the plans selected were new plans with no assets or liabilities. It is significant to note that while Table XV shows 20 percent of active members being in plans with a solvency ratio of under one, 96 percent of those members are covered by one large multi-employer pension plan whose solvency ratio is .57.

Sixty-one percent of registered defined benefit plans had a funded ratio of one or better. These plans covered 36 percent of active plan members. Eighty-seven percent of all defined benefit plans had a solvency ratio of one or more, and these plans covered 79 percent of active members. Extracting the multi-employer plans from this, 86 percent of defined benefit plans had a funded ratio of one or more, and 96 percent had a solvency ratio of at least one.

Tables XVI and XVII, on pages 26 and 27, relate specifically to funding and solvency ratios for multi-employer pension plans. There were 28 multi-employer defined benefit pension plans registered with the branch, none of which were new registrations.

Sixty percent of multi-employer pension plans had a funded ratio of one or better, however, these plans covered only 12 percent of active members of multi-employer plans. This can be explained by the funded status of the two large multi-employer plans noted at the beginning of this report. Only one multi-employer plan had a solvency ratio of under one, but this plan covered 30 percent of the total active members of multi-employer plans.

For additional figures relating to funding and solvency ratios, please refer to the Appendix. It should be noted that the tables in the Appendix surveyed all 508 defined benefit plans, however, the data outlined does not include the 16 new plans with no assets and liabilities.

Table X

Plan Assets by Plan Type
For Plans Supervised by the Branch
For the Year Ended March 31, 1990

Type of Plan	# of Plans	# of Members		Total Assets		Average Assets Per Plan		Average Assets Per Member	
		Active	Total	Market	Utilized	Market	Utilized	Market	Utilized
Career Average	87	11 634	15 058	301 618 836	291 463 859	3 466 883	3 350 159	20 030	19 356
Average Best	284	64 157	85 836	3 929 116 267	3 869 514 587	13 834 916	13 625 051	45 775	45 080
Final Average	41	5 012	8 159	166 486 589	167 531 526	4 060 649	4 086 135	20 405	20 533
Flat Benefit	72	177 395	226 374	1 474 311 816	1 459 994 189	20 476 553	20 277 697	6 513	6 449
Composite	24	2 535	3 467	38 571 703	37 615 760	1 607 154	1 567 323	11 125	10 850
Sub Total	**508**	**260 733**	**338 894**	**5 910 105 211**	**5 826 119 921**	**11 634 065**	**11 468 740**	**17 439**	**17 192**
Money Purchase	1 053	23 915	23 915	368 206 904	368 206 904	349 674	349 674	15 396	15 396
Total	**1 561**	**284 648**	**362 809**	**6 278 312 115**	**6 194 326 825**	**4 021 981**	**3 968 179**	**17 305**	**17 073**

Table XI

Plan Liabilities by Plan Type
For Plans Supervised by the Branch
For the Year Ended March 31, 1990

Type of Plan	# of Plans	# of Members		Total Liabilites		Average Liabilites Per Plan		Average Liabilites Per Member	
		Active	Total	Ongoing	Termination *	Ongoing	Termination *	Ongoing	Termination *
Career Average	87	11 634	15 058	260 939 000	260 279 799	2 999 299	2 991 722	17 329	17 285
Average Best	284	64 157	85 836	3 539 994 890	3 419 457 148	12 464 771	12 040 342	41 241	39 837
Final Average	41	5 012	8 159	144 335 445	139 584 522	3 520 377	3 404 501	17 690	17 108
Flat Benefit	72	177 395	226 374	1 964 622 642	1 691 951 527	27 286 426	23 499 327	8 679	7 474
Composite	24	2 535	3 467	34 705 491	33 628 332	1 446 062	1 401 181	10 010	9 700
Sub Total	**508**	**260 733**	**338 894**	**5 944 597 468**	**5 544 901 328**	**11 701 963**	**10 915 160**	**17 541**	**16 362**
Money Purchase	1 053	23 915	23 915	368 206 904	368 206 904	349 674	349 674	15 396	15 396
Total	**1 561**	**284 648**	**362 809**	**6 312 804 372**	**5 913 108 232**	**4 044 077**	**3 788 026**	**17 400**	**16 298**

* Termination liabilities are overstated, as they are assumed to be the lesser of ongoing liabilities and market value of assets for those plans which have a solvency ratio of 1 or more.

Table XII

Unfunded Liabilities and Solvency Deficiencies by Plan Type
For Plans Supervised by the Branch
For the Year Ended March 31, 1990

	UNFUNDED LIABILITIES					SOLVENCY DEFICIENCIES				
Type of Plan	# of Plans	# of Members	Total Liabilities	Average Per Plan	Average Per Member	# of Plans	# of Members	Total Deficiency	Average Per Plan	Average Per Member
Career Average	19	1 977	7 521 053	395 845	3 804	4	661	2 959 684	739 921	4 478
Average Best	123	12 636	73 100 592	594 314	5 785	6	13	216 221	36 037	16 632
Final Average	20	311	6 354 206	317 710	20 432	2	9	44 611	22 306	4 957
Flat Benefit	24	153 561	576 302 400	24 012 600	3 753	2	306	389 600	194 800	1 273
Composite	8	1 595	1 623 716	202 965	1 018	2	63	185 035	92 518	2 937
Total	**194**	**170 080**	**664 901 967**	**3 427 330**	**3 909**	**16**	**1 052**	**3 795 151**	**237 197**	**3 608**

Note: The number of members in this table represents active members only.

Table XIII

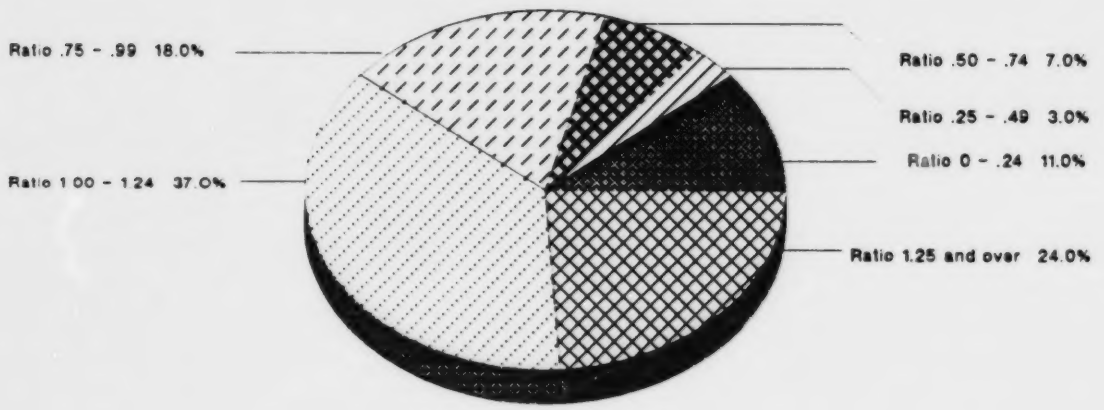
Surplus Assets by Plan Type
For Plans Supervised by the Branch
For the Year Ended March 31, 1990

Type of Plan	# of Plans	# of Members		Total Surplus	Average Per Plan	Average Per Member
		Active	Total			
Career Average	62	9 567	12 493	38 045 912	613 644	3 045
Average Best	147	51 397	69 879	402 620 289	2 738 914	5 762
Final Average	21	4 701	7 815	29 550 287	1 407 157	3 781
Flat Benefit	46	23 829	39 222	71 673 947	1 558 129	1 827
Composite	8	547	627	4 533 985	566 748	7 231
Total	**284**	**90 041**	**130 036**	**546 424 420**	**1 924 030**	**4 202**

Table XIV

Funded Ratio for Plans Supervised by the Branch As of March 31, 1990

AS A PERCENTAGE OF PLANS



AS A PERCENTAGE OF ACTIVE MEMBERS

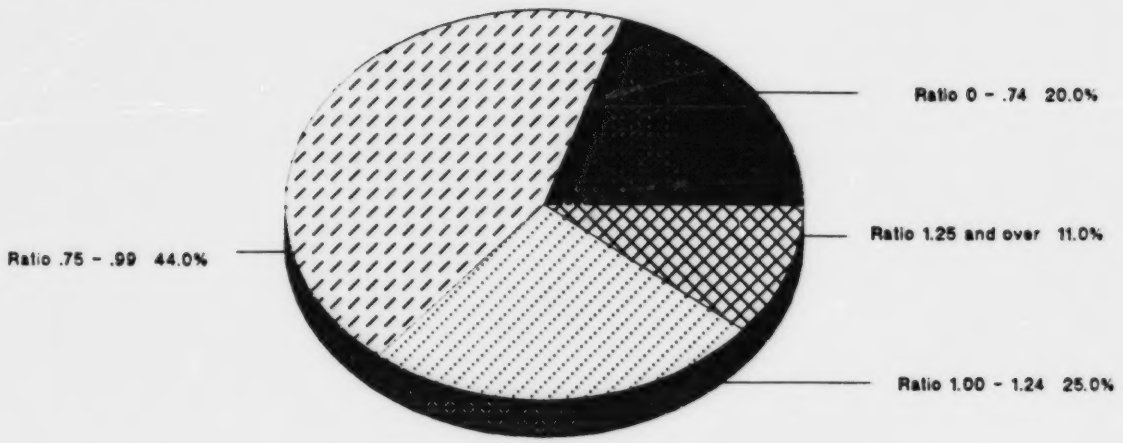
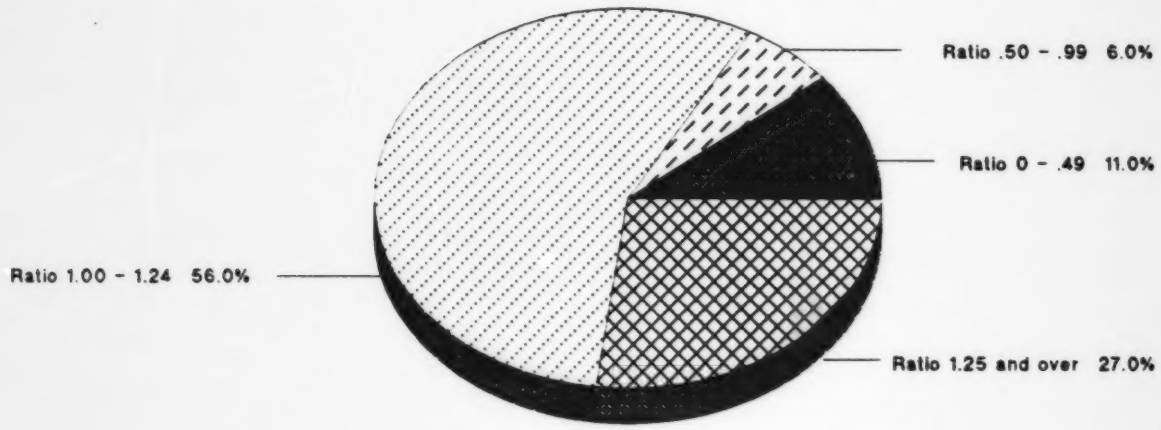


Table XV

Solvency Ratio for Plans Supervised by the Branch As of March 31, 1990

AS A PERCENTAGE OF PLANS



AS A PERCENTAGE OF ACTIVE MEMBERS COVERED

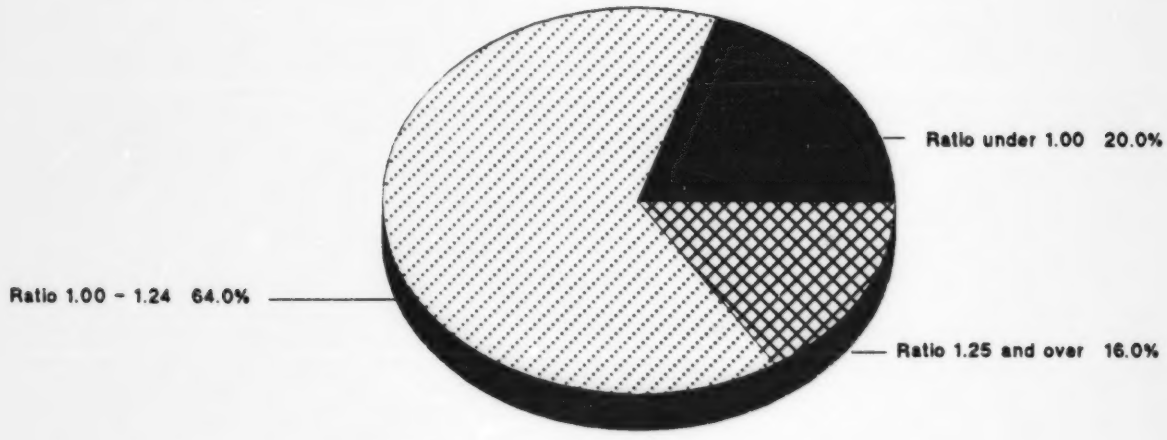
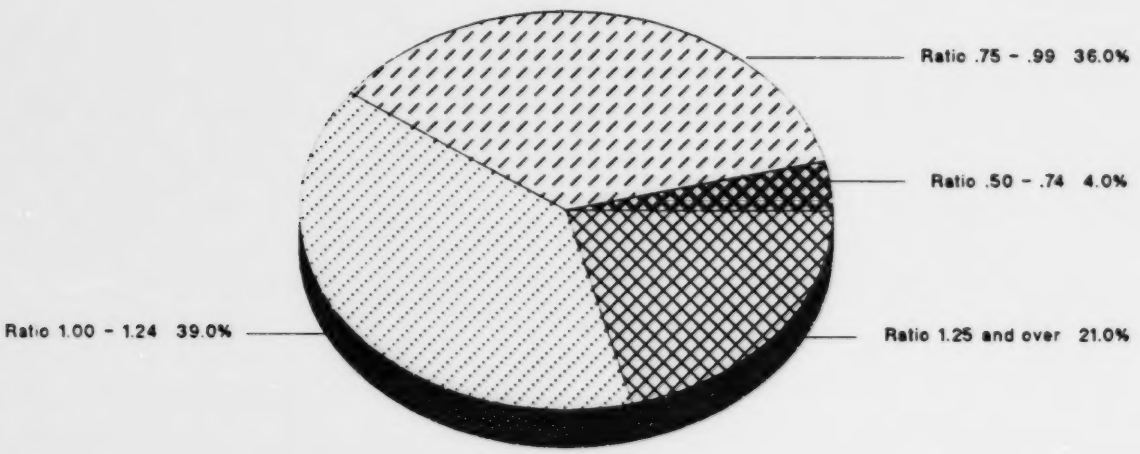


Table XVI

Funded Ratio for Multi-Employer Plans Supervised by the Branch As of March 31, 1990

AS A PERCENTAGE OF PLANS



AS A PERCENTAGE OF ACTIVE MEMBERS COVERED

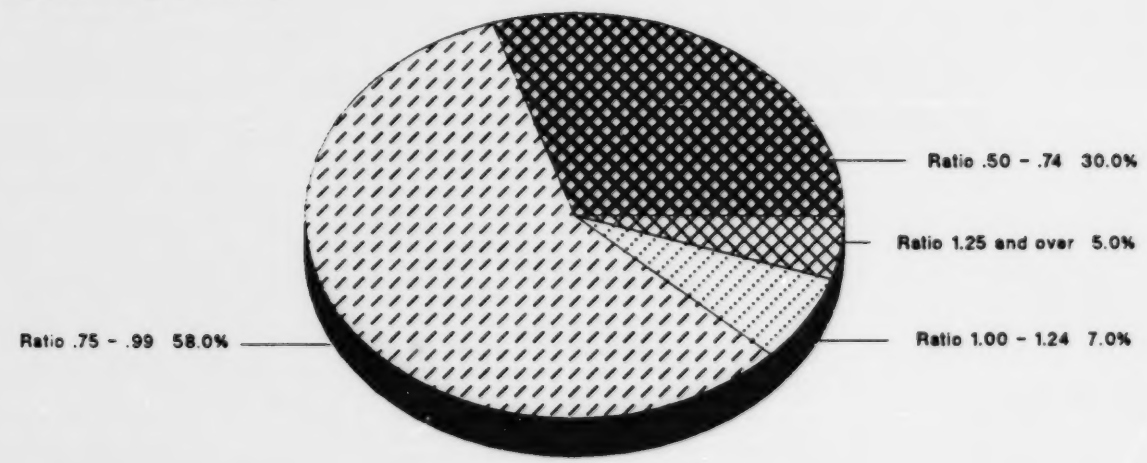
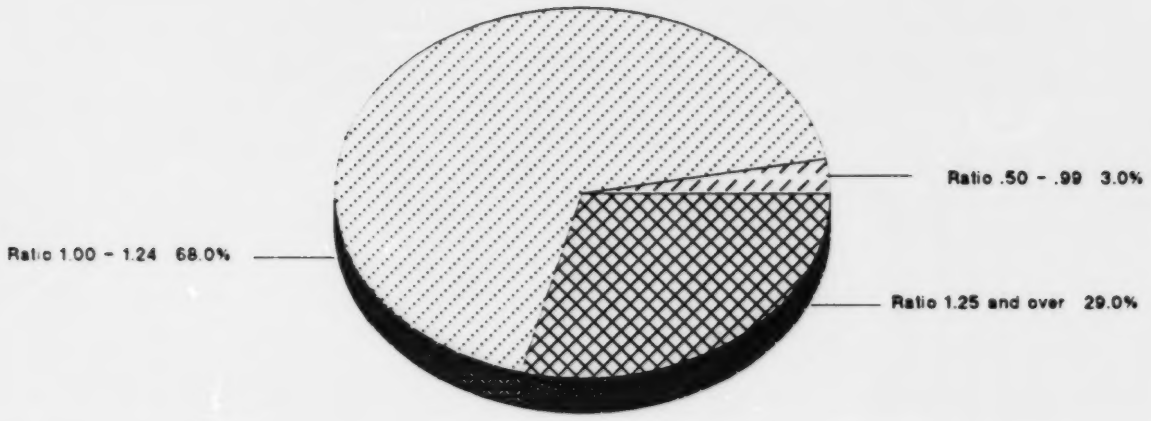


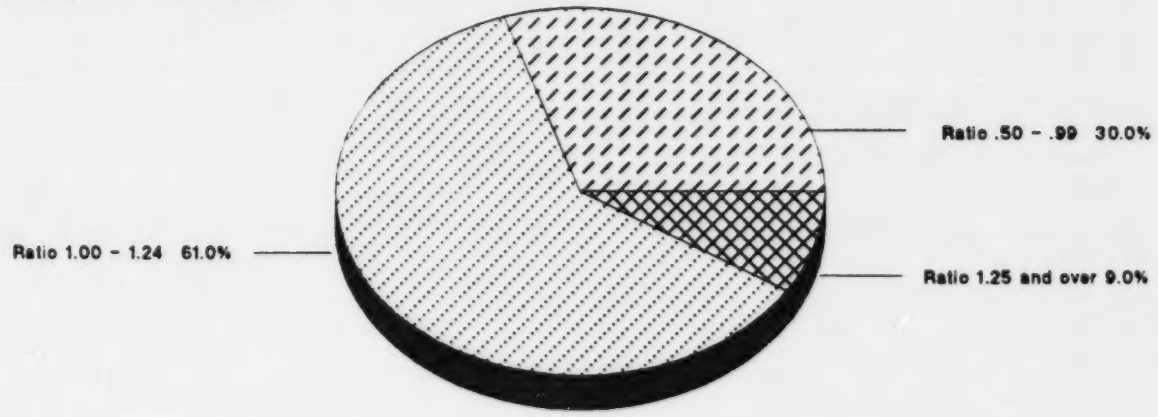
Table XVII

Solvency Ratio for Multi-Employer Plans Supervised by the Branch As of March 31, 1990

AS A PERCENTAGE OF PLANS



AS A PERCENTAGE OF ACTIVE MEMBERS COVERED



4. ACTUARIAL ASSUMPTIONS

Tables XVIII through XXV summarize the actuarial assumptions used for the 508 defined benefit plans supervised by the branch as of March 31, 1990. It should be noted that four of these plans were composite plans that had no defined benefits at the time of review. There was, therefore, no data for these plans.

METHOD OF VALUING LIABILITIES

The most common actuarial valuation method used for determining ongoing plan liabilities was the accrued, or unit credit method, accounting for 74 percent of the defined benefit plans. As can be seen in Table XVIII, on page 30, all but four career average plans used this method. The next most common method was the attained age method. The other methods noted in Table XVII were frozen initial liability methods. Table XVII provides a breakdown of methods used on a plan type basis, and as a percentage of plans.

VALUE OF ASSETS

The most popular method used to determine the actuarial value of the assets of a pension plan was based on market value of plan assets. A total of 55 percent of plans used straight market value, with another 19 percent of plans using an adjusted market value. This held true for all plan types including flat benefit plans. Previously, the majority of flat benefit plans had used book or adjusted book value. Table XIX, on page 31, summarizes utilized values by plan type and as a percentage of plans. The 11 plans using a method noted as other, used either an average of book and market, or valued fixed income investments at book and equities at market value.

MORTALITY TABLES AND WITHDRAWAL RATES

Over one half of defined benefit plans used the 1983 Group Annuity Mortality Table, or some variation of it. As Table XX, on page 32, shows, most of the remaining plans used the 1971 Group Annuity Table or an adjusted version of it. Only seven percent of the plans surveyed used any other tables. These included 17 plans using sample rates, seven using the 1951 Group Annuity Table or an adjusted version of it, five using the 1965 Group Annuity Table, one using the 1963 Group Annuity Table, and one using the 1949 Group Annuity Table.

There was an almost even split between those plans using withdrawal rate assumptions and those not, 49 percent versus 51 percent. This even split was also present by type of plan, except in the case of flat benefit plans, where 74 percent of the plans used a withdrawal rate assumption. Table XXI, on page 32, illustrates the withdrawal rate assumptions.

INTEREST AND SALARY ASSUMPTIONS

Table XXII, on page 33, provides a breakdown of the long term or ultimate rate of interest assumption used for the 508 defined benefit plans surveyed. The vast majority, 79 percent, of plans used a long term interest assumption of between six and seven and one half percent. There has, however been a slight increase, two percent, in plans using an eight percent interest assumption. There was one plan using an 11.6 percent assumption, however, it should be noted that this was a plan with only retired members which has been given permission to delay winding up until the unfunded liability has been amortized. The remaining 15 plans with an assumption of eight and one half percent or more were mostly significant shareholder and executive plans. The one plan with an assumption of three percent or less provided for annual pension increases based on the amount of increase in the Consumer Price Index each year.

There were 345 of the 508 plans surveyed which required a salary assumption. Table XXIII, on page 34, outlines figures in this regard. The majority of salary assumptions ranged between five and six percent. A total of 58 plans had a salary assumption of two percent or under. These were significant shareholder and executive plans where members were already at the maximum earnings level permitted under the Income Tax Act (Canada) for pension plans.

As shown in Table XXIV, on page 35, 208 plans, or 60 percent, had an interest assumption that exceeded the salary assumption by one percent or less. Sixty plans had a difference of at least three percent between their interest and salary assumptions. The plans with the higher differentials were mostly significant shareholder and executive plans which had some assumption constraints imposed by the Income Tax Act (Canada). Seventy-seven plans had a differential of between one and one quarter and two and one half percent, with only four of these having over a two percent difference. Further details on interest and salary assumptions are provided in the Appendix.

HOURS WORKED ASSUMPTIONS

The final assumption surveyed was that of the average hours worked by a member in a plan year. This assumption was used exclusively by multi-employer flat benefit plans. There were 27 plans which were required to use an hours worked assumption. The average hours worked assumption was 1 210 hours per year per plan member. Table XXV, on page 36, provides a percentage breakdown of the hours worked assumption used.

Table XVIII

Method of Valuing Liabilities Used for Plans Supervised by the Branch As of March 31, 1990

BY PLAN TYPE

	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total
Accrued Benefit	83	191	30	61	11	376
Entry Age	0	16	2	8	3	29
Aggregate	2	7	3	0	2	14
Individual Level	0	19	0	0	0	19
Attained Age	2	51	6	2	2	63
Other	0	0	0	1	2	3
Total	87	284	41	72	20	504

AS A PERCENTAGE OF PLANS

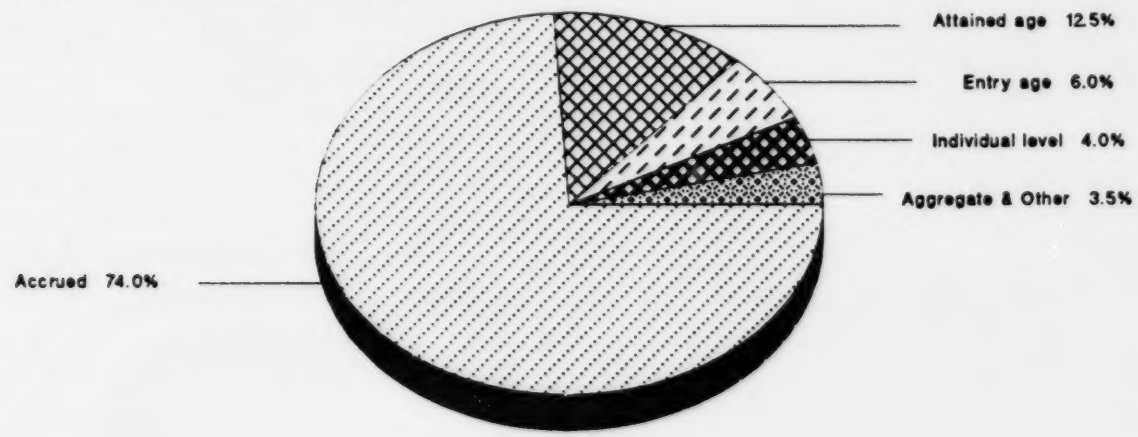


Table XIX

Utilized Value of Assets for Plans Supervised by the Branch As of March 31, 1990

BY PLAN TYPE

	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total
Book	10	28	7	17	5	67
Adjusted Book	7	16	1	5	1	30
Market	39	177	23	27	12	278
Adjusted Market	20	48	9	17	2	96
Average of Market	9	10	1	2	0	22
Other	2	5	0	4	0	11
Total	87	284	41	72	20	504

AS A PERCENTAGE OF PLANS

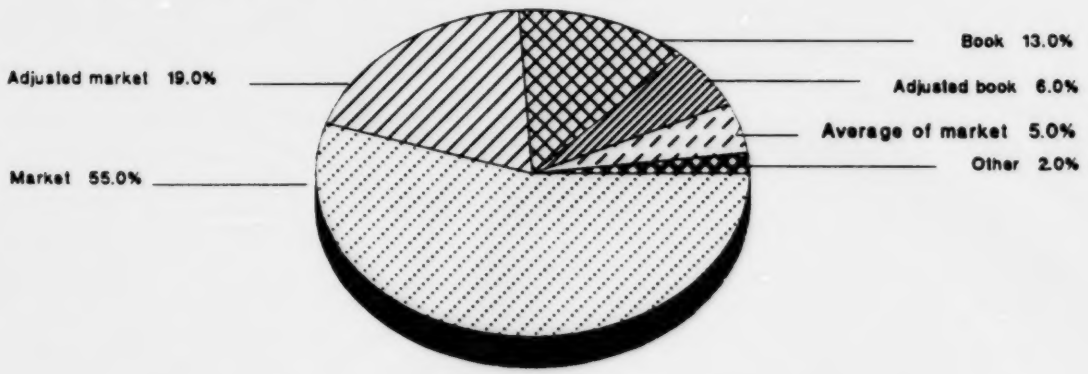


Table XX

Mortality Tables Used for Plans Supervised by the Branch As of March 31, 1990

AS A PERCENTAGE OF PLANS

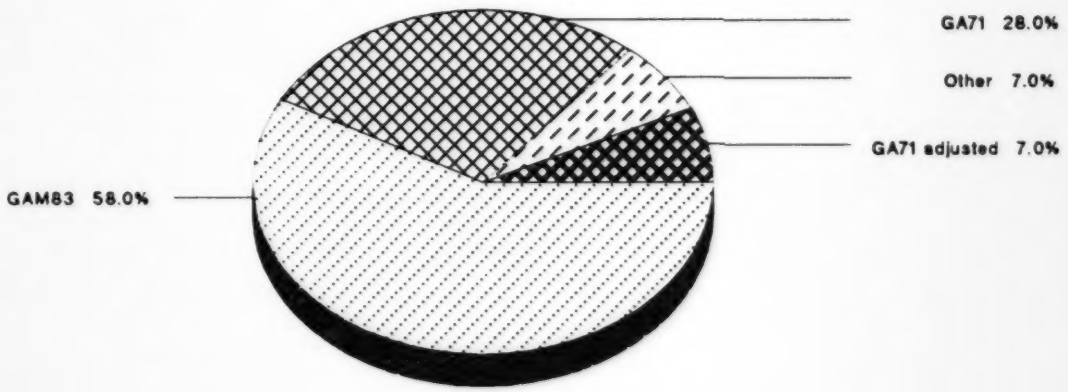


Table XXI

Withdrawal Rate Assumption Usage for Plans Supervised by the Branch As of March 31, 1990

AS A PERCENTAGE OF PLANS

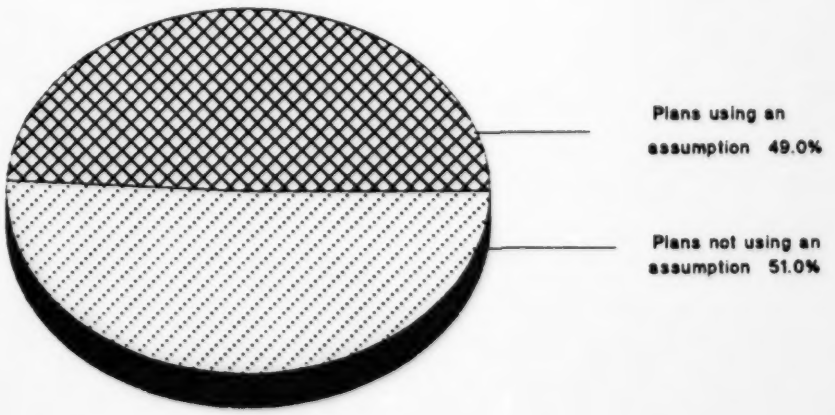


Table XXII

Interest Assumptions Used
For Pension Plans Supervised by the Branch
For the Year Ended March 31, 1990

Rate %	# of Plans
11.0 or over	1
10.5	1
10.0	0
9.5	1
9.0	3
8.5	10
8.0	59
7.5	49
7.0	152
6.5	32
6.0	166
5.5	2
5.0	25
4.5	2
4.0	0
3.5	0
3.0 or under	1
Total	**504**

Table XXIII

Salary Assumptions Used *
For Plans Supervised by the Branch
For the Year Ended March 31, 1990

Rate %	# of Plans
9.5 or over	2
9.0	0
8.5	0
8.0	2
7.5	2
7.0	16
6.5	27
6.0	82
5.5	22
5.0	108
4.5	9
4.0	17
3.5	1
3.0	3
2.5	0
2.0 or under	54
Total	**345**

*** Final Average and Average Best Earnings Plans Only**

Table XXIV

Percentage Difference Between * Interest and Salary Assumptions Used For Plans Supervised by the Branch For the Year Ended March 31, 1990

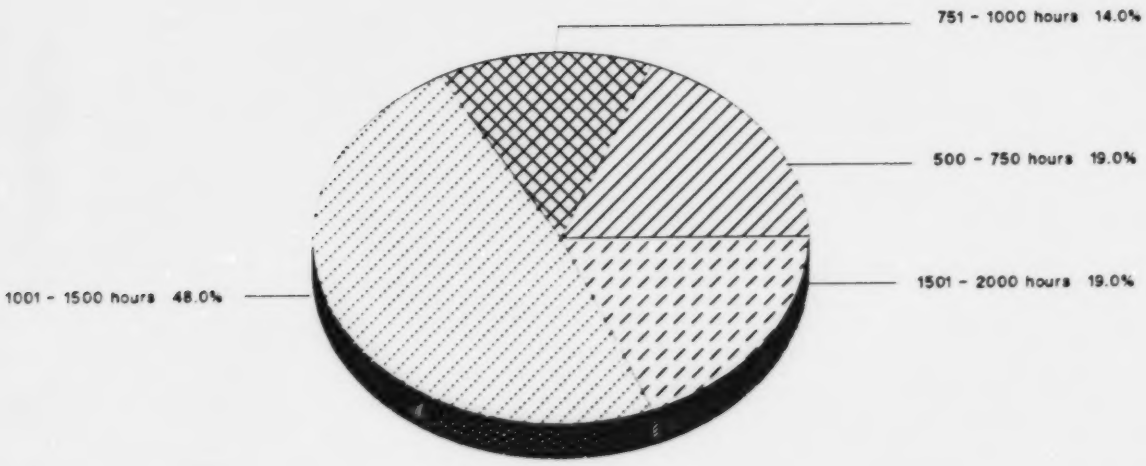
Difference %	# of Plans
3.00 or over	60
2.50	4
2.00	28
1.50	43
1.25	2
1.00	179
0.75	0
0.50	13
0.25	1
0.00	11
- 0.50	1
- 1.00	0
- 1.50	2
- 2.00 or under	1
Total	**345**

*** Final Average and Average Best Earnings Plans Only**

Table XXV

Hours Worked Assumption Used for Multi-Employer Flat Benefit Plans Supervised by the Branch As of March 31, 1990

AS A PERCENTAGE OF PLANS



APPENDIX

Table I

Funded Ratio by Type of Plan

Funded Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Plans	Per Cent
130 +	22	50	8	17	2	99	20.12
125 - 129	5	5	2	4	1	17	3.46
120 - 124	4	11	0	2	0	17	3.46
115 - 119	2	19	4	3	0	28	5.69
110 - 114	11	15	2	7	1	36	7.32
105 - 109	4	22	3	5	2	36	7.32
100 - 104	18	31	2	9	5	65	13.21
95 - 99	6	12	1	4	2	25	5.08
90 - 94	3	13	2	2	2	22	4.47
85 - 89	4	6	1	2	2	15	3.05
80 - 84	1	6	1	2	1	11	2.24
75 - 79	2	6	1	3	0	12	2.44
70 - 74	0	3	0	1	0	4	0.81
65 - 69	1	8	0	0	0	9	1.83
60 - 64	1	5	1	1	0	8	1.63
55 - 59	0	3	0	3	1	7	1.42
50 - 54	0	4	1	2	0	7	1.42
45 - 49	0	2	1	1	0	4	0.81
40 - 44	0	5	0	0	0	5	1.02
35 - 39	0	3	1	0	0	4	0.81
30 - 34	0	2	1	0	0	3	0.61
25 - 29	0	1	0	0	0	1	0.20
20 - 24	0	1	0	0	0	1	0.20
15 - 19	0	1	0	0	0	1	0.20
10 - 14	0	1	0	0	0	1	0.20
5 - 9	0	1	2	0	0	3	0.61
0 - 4	1	40	7	3	0	51	10.37
Total	**85**	**276**	**41**	**71**	**19**	**492**	**100.00**

Table II

Funded Ratio and Plan Membership By Plan Type

Funded Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Members	Per Cent
130 +	3312	9901	742	6016	272	20243	7.77
125 - 129	1237	365	2901	3046	74	7623	2.93
120 - 124	105	6641	0	3141	0	9887	3.80
115 - 119	169	6109	406	883	0	7567	2.91
110 - 114	1777	6236	181	5524	68	13786	5.29
105 - 109	1139	6222	267	1946	66	9640	3.70
100 - 104	1894	15928	204	3274	341	21641	8.31
95 - 99	874	972	91	2180	727	4844	1.86
90 - 94	267	10922	43	1231	148	12611	4.84
85 - 89	163	388	3	3674	635	4863	1.87
80 - 84	144	176	79	90291	17	90707	34.82
75 - 79	44	81	65	3516	0	3706	1.42
70 - 74	0	5	0	2	0	7	0.00
65 - 69	272	11	0	0	0	283	0.11
60 - 64	136	6	5	33	0	180	0.07
55 - 59	0	4	0	52152	68	52224	20.05
50 - 54	0	10	8	205	0	223	0.09
45 - 49	0	2	1	1	0	4	0.00
40 - 44	0	5	0	0	0	5	0.00
35 - 39	0	3	1	0	0	4	0.00
30 - 34	0	2	1	0	0	3	0.00
25 - 29	0	1	0	0	0	1	0.00
20 - 24	0	1	0	0	0	1	0.00
15 - 19	0	1	0	0	0	1	0.00
10 - 14	0	1	0	0	0	1	0.00
5 - 9	0	1	6	0	0	7	0.00
0 - 4	77	44	8	276	0	405	0.16
Total	**11610**	**64038**	**5012**	**177391**	**2416**	**260467**	**100.00**

Table III

Solvency Ratio by Type of Plan

Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Plans	Per Cent
130 +	26	56	9	21	3	115	23.37
125 - 129	5	10	1	2	0	18	3.66
120 - 124	3	13	2	4	0	22	4.47
115 - 119	4	17	2	7	0	30	6.10
110 - 114	10	13	2	9	1	35	7.11
105 - 109	5	16	3	3	1	28	5.69
100 - 104	24	94	12	17	11	158	32.12
95 - 99	2	4	0	2	0	8	1.63
90 - 94	0	2	0	1	2	5	1.02
85 - 89	2	3	1	1	0	7	1.42
80 - 84	2	1	0	0	0	3	0.61
75 - 79	0	0	0	0	0	0	0.00
70 - 74	1	1	0	0	0	2	0.41
65 - 69	0	0	0	0	0	0	0.00
60 - 64	0	1	0	1	1	3	0.61
55 - 59	0	0	0	0	0	0	0.00
50 - 54	0	1	0	0	0	1	0.20
45 - 49	0	0	0	0	0	0	0.00
40 - 44	0	0	0	0	0	0	0.00
35 - 39	0	0	1	0	0	1	0.20
30 - 34	0	0	0	0	0	0	0.00
25 - 29	0	1	0	0	0	1	0.20
20 - 24	0	1	0	0	0	1	0.20
15 - 19	0	2	0	0	0	2	0.41
10 - 14	0	0	0	0	0	0	0.00
5 - 9	0	2	1	0	0	3	0.61
0 - 4	1	38	7	3	0	49	9.96
Total	**85**	**276**	**41**	**71**	**19**	**492**	**100.00**

Table IV

Solvency Funded Ratio and Plan Membership By Plan Type

Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Members	Per Cent
130 +	3841	13735	784	17134	346	35840	13.76
125 - 129	931	3590	147	400	0	5068	1.95
120 - 124	273	3069	3033	2161	0	8536	3.28
115 - 119	635	6250	85	5347	0	12317	4.73
110 - 114	1214	7712	181	5009	68	14184	5.45
105 - 109	879	6659	267	580	52	8437	3.24
100 - 104	3016	22775	493	94586	1858	122728	47.12
95 - 99	70	6	0	28	0	104	0.04
90 - 94	0	8	0	30	46	84	0.03
85 - 89	43	4	8	571	0	626	0.24
80 - 84	495	1	0	0	0	496	0.19
75 - 79	0	0	0	0	0	0	0.00
70 - 74	136	1	0	0	0	137	0.05
65 - 69	0	0	0	0	0	0	0.00
60 - 64	0	1	0	51269	46	51316	19.70
55 - 59	0	0	0	0	0	0	0.00
50 - 54	0	1	0	0	0	1	0.00
45 - 49	0	0	0	0	0	0	0.00
40 - 44	0	0	0	0	0	0	0.00
35 - 39	0	0	1	0	0	1	0.00
30 - 34	0	0	0	0	0	0	0.00
25 - 29	0	1	0	0	0	1	0.00
20 - 24	0	1	0	0	0	1	0.00
15 - 19	0	2	0	0	0	2	0.00
10 - 14	0	0	0	0	0	0	0.00
5 - 9	0	2	5	0	0	7	0.00
0 - 4	77	220	8	276	0	581	0.22
Total	**11610**	**64038**	**5012**	**177391**	**2416**	**260467**	**100.00**

Table V

Funded Ratio by Type of Plan
Multi-Employer Plans Only

Funded Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Plans	Per Cent
130 +	0	0	0	4	0	4	14.29
125 - 129	0	0	0	2	0	2	7.14
120 - 124	0	0	0	2	0	2	7.14
115 - 119	0	0	0	1	0	1	3.57
110 - 114	0	0	0	2	0	2	7.14
105 - 109	0	0	0	3	0	3	10.72
100 - 104	0	0	0	3	0	3	10.72
95 - 99	0	0	0	3	1	4	14.29
90 - 94	0	0	0	1	1	2	7.14
85 - 89	0	0	0	1	0	1	3.57
80 - 84	0	1	0	1	0	2	7.14
75 - 79	0	0	0	1	0	1	3.57
70 - 74	0	0	0	0	0	0	0.00
65 - 69	0	0	0	0	0	0	0.00
60 - 64	0	0	0	0	0	0	0.00
55 - 59	0	0	0	1	0	1	3.57
50 - 54	0	0	0	0	0	0	0.00
45 - 49	0	0	0	0	0	0	0.00
40 - 44	0	0	0	0	0	0	0.00
35 - 39	0	0	0	0	0	0	0.00
30 - 34	0	0	0	0	0	0	0.00
25 - 29	0	0	0	0	0	0	0.00
20 - 24	0	0	0	0	0	0	0.00
15 - 19	0	0	0	0	0	0	0.00
10 - 14	0	0	0	0	0	0	0.00
5 - 9	0	0	0	0	0	0	0.00
0 - 4	0	0	0	0	0	0	0.00
Total	**0**	**1**	**0**	**25**	**2**	**28**	**100.00**

Table VI

Funded Ratio and Plan Membership
By Plan Type
Multi-Employer Plans Only

Funded Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Members	Per Cent
130 +	0	0	0	5103	0	5103	2.96
125 - 129	0	0	0	2837	0	2837	1.65
120 - 124	0	0	0	3141	0	3141	1.82
115 - 119	0	0	0	278	0	278	0.16
110 - 114	0	0	0	4893	0	4893	2.84
105 - 109	0	0	0	1518	0	1518	0.88
100 - 104	0	0	0	2286	0	2286	1.33
95 - 99	0	0	0	2180	723	2903	1.69
90 - 94	0	0	0	1206	141	1347	0.78
85 - 89	0	0	0	2983	0	2983	1.73
80 - 84	0	80	0	90220	0	90300	52.43
75 - 79	0	0	0	3391	0	3391	1.97
70 - 74	0	0	0	0	0	0	0.00
65 - 69	0	0	0	0	0	0	0.00
60 - 64	0	0	0	0	0	0	0.00
55 - 59	0	0	0	51269	0	51269	29.76
50 - 54	0	0	0	0	0	0	0.00
45 - 49	0	0	0	0	0	0	0.00
40 - 44	0	0	0	0	0	0	0.00
35 - 39	0	0	0	0	0	0	0.00
30 - 34	0	0	0	0	0	0	0.00
25 - 29	0	0	0	0	0	0	0.00
20 - 24	0	0	0	0	0	0	0.00
15 - 19	0	0	0	0	0	0	0.00
10 - 14	0	0	0	0	0	0	0.00
5 - 9	0	0	0	0	0	0	0.00
0 - 4	0	0	0	0	0	0	0.00
Total	**0**	**80**	**0**	**171305**	**864**	**172249**	**100.00**

Table VII

Solvency Ratio by Plan Type
Multi-Employer Plans Only

Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Plans	Per Cent
130 +	0	0	0	8	0	8	28.57
125 - 129	0	0	0	0	0	0	0.00
120 - 124	0	0	0	2	0	2	7.14
115 - 119	0	0	0	4	0	4	14.29
110 - 114	0	0	0	4	0	4	14.29
105 - 109	0	0	0	1	0	1	3.57
100 - 104	0	1	0	5	2	8	28.57
95 - 99	0	0	0	0	0	0	0.00
90 - 94	0	0	0	0	0	0	0.00
85 - 89	0	0	0	0	0	0	0.00
80 - 84	0	0	0	0	0	0	0.00
75 - 79	0	0	0	0	0	0	0.00
70 - 74	0	0	0	0	0	0	0.00
65 - 69	0	0	0	0	0	0	0.00
60 - 64	0	0	0	1	0	1	3.57
55 - 59	0	0	0	0	0	0	0.00
50 - 54	0	0	0	0	0	0	0.00
45 - 49	0	0	0	0	0	0	0.00
40 - 44	0	0	0	0	0	0	0.00
35 - 39	0	0	0	0	0	0	0.00
30 - 34	0	0	0	0	0	0	0.00
25 - 29	0	0	0	0	0	0	0.00
20 - 24	0	0	0	0	0	0	0.00
15 - 19	0	0	0	0	0	0	0.00
10 - 14	0	0	0	0	0	0	0.00
5 - 9	0	0	0	0	0	0	0.00
0 - 4	0	0	0	0	0	0	0.00
Total	**0**	**1**	**0**	**25**	**2**	**28**	**100.00**

Table VIII

Solvency Ratio and Plan Membership
By Plan Type
Multi-Employer Plans Only

Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Members	Per Cent
130 +	0	0	0	16172	0	16172	9.39
125 - 129	0	0	0	0	0	0	0.00
120 - 124	0	0	0	2022	0	2022	1.18
115 - 119	0	0	0	4705	0	4705	2.73
110 - 114	0	0	0	4690	0	4690	2.72
105 - 109	0	0	0	348	0	348	0.20
100 - 104	0	80	0	92099	864	93043	54.02
95 - 99	0	0	0	0	0	0	0.00
90 - 94	0	0	0	0	0	0	0.00
85 - 89	0	0	0	0	0	0	0.00
80 - 84	0	0	0	0	0	0	0.00
75 - 79	0	0	0	0	0	0	0.00
70 - 74	0	0	0	0	0	0	0.00
65 - 69	0	0	0	0	0	0	0.00
60 - 64	0	0	0	51269	0	51269	29.76
55 - 59	0	0	0	0	0	0	0.00
50 - 54	0	0	0	0	0	0	0.00
45 - 49	0	0	0	0	0	0	0.00
40 - 44	0	0	0	0	0	0	0.00
35 - 39	0	0	0	0	0	0	0.00
30 - 34	0	0	0	0	0	0	0.00
25 - 29	0	0	0	0	0	0	0.00
20 - 24	0	0	0	0	0	0	0.00
15 - 19	0	0	0	0	0	0	0.00
10 - 14	0	0	0	0	0	0	0.00
5 - 9	0	0	0	0	0	0	0.00
0 - 4	0	0	0	0	0	0	0.00
Total	**0**	**80**	**0**	**171305**	**864**	**172249**	**100.00**

Table IX

Number of Plans by Interest-Salary Assumption Differential

Differential	+3.00	2.50	2.00	1.50	1.25	1.00	0.75	0.50	0.25	0.00	-0.50	-1.00	-1.50	-2.00 or lower	Total
Interest															
11.00+	1														1
11.00															0
10.50	1														1
10.00															0
9.50															0
9.00	1	1												1	3
8.50	2	2		1											5
8.00	11		14	2		11				1			1		40
7.50			1	10		17		1		1	1				31
7.00	14	1	10	16	1	47		7		2					98
6.50	5		1	6		3		1	1						17
6.00	22		2	7	1	86		2		5			1		126
5.50								2							2
5.00	1			1		15				2					19
4.50	1														1
4.00															0
3.50															0
3.00 or under	1														1
Total	60	4	28	43	2	179	0	13	1	11	1	0	2	1	345